

REMARKS

Request for 3-Month Suspension of Action

Applicants requested a 3-month suspension of action when the Request for Continued Examination was filed on March 5, 2009. Despite this request, the Examiner erroneously issued an Office Action on April 16, 2009. Applicants' representative spoke with the Examiner on May 13, 2009. During this conversation, the Examiner stated that the Office Action of April 16, 2009 would be vacated. In view of this, Applicants respectfully submit this Amendment in response to the Office Action dated October 6, 2008 prior to the expiration of the 3-month suspension of action.

Status of the Claims

Claims 1-6 and 8-10 are pending in the above-identified application and stand ready for further action on the merits. In this Amendment, claim 1 has been amended. Support for this amendment can be found in the present specification, *inter alia*, at page 4, lines 27-28. Thus, no new matter has been added. Based upon the above considerations, entry of the present amendment is respectfully requested.

In view of the following remarks, Applicants respectfully request that the Examiner withdraw all rejections and allow the currently pending claims.

Issues under 35 U.S.C. § 103(a)

Claims 1-3, 5 and 7-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over **Isozaki** (U.S. Patent 6,337,369) in view of **Starzewski** (U.S. Patent 5,670,092).

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over **Isozaki** (U.S. Patent 6,337,369) in view of **Starzewski** (U.S. Patent 5,670,092), further in view of **DesMarais et al.** (U.S. Patent 6,362,244).

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over **Isozaki** (U.S. Patent 6,337,369) in view of **Starzewski** (U.S. Patent 5,670,092), further in view of **Dempo** (U.S. Patent 5,512,178).

Applicants respectfully traverse. Reconsideration and withdrawal of each of the above rejections are respectfully requested based on the following considerations.

Legal Standard for Determining Prima Facie Obviousness

MPEP § 2141 sets forth the guidelines in determining obviousness. First, the Examiner has to take into account the factual inquiries set forth in *Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), which has provided the controlling framework for an obviousness analysis. The four *Graham* factors are:

- (a) determining the scope and content of the prior art;
- (b) ascertaining the differences between the prior art and the claims in issue;
- (c) resolving the level of ordinary skill in the pertinent art; and
- (d) evaluating any evidence of secondary considerations.

Graham v. John Deere, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

Second, the Examiner has to provide some rationale for determining obviousness. MPEP § 2143 sets forth some rationales that were established in the recent decision of *KSR International Co. v Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). Exemplary rationales that may support a conclusion of obviousness include:

- (a) *combining prior art elements according to known methods to yield predictable results;*
- (b) *simple substitution of one known element for another to obtain predictable results;*
- (c) *use of known technique to improve similar devices (methods, or products) in the same way;*
- (d) *applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;*
- (e) *"obvious to try" – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success*
- (f) *known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other*

market forces if the variations are predictable to one of ordinary skill in the art;

- (g) *some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.*

As the MPEP directs, all claim limitations must be considered in view of the cited prior art in order to establish a *prima facie* case of obviousness. See MPEP § 2143.03.

The Present Invention

The present invention relates to a method for producing a polarizing film of a polyvinyl alcohol having no polyvinylene structure comprising dipping a polyvinyl alcohol film in/on which iodine is adsorbed and oriented in an aqueous solution containing boric acid in which the contact between the aqueous solution and oxygen is suppressed. Because the contact between the aqueous solution and oxygen is suppressed, the contrast of a polarizing film produced is significantly increased.

Prior to the present invention, it was not known to produce a polarizing film by dipping a film in an aqueous solution containing water, boric acid, and potassium iodide in a weight ratio of 100:(2-15):(2-20) at a temperature of 55 to 85°C while suppressing the contact of the aqueous solution with oxygen. Also, the effect of increasing the contrast of the polarizing film by such a production method was not known.

Distinctions Over the Cited References

Isozaki discloses a polarizing film comprising polyvinyl alcohol (PVA) having a polyvinylene structure. In the production method of **Isozaki**, the polyvinyl alcohol film is subjected to dry-heat stretching at a temperature of 100 to 250°C (col. 4, lines 1-5). During the stretching, the film may be discolored due to the oxidation of PVA. To avoid such discoloration, the dry-heat stretching is preferably conducted in an oxygen-poor atmosphere such as a nitrogen atmosphere or in vacuum (col. 4, lines 7-11).

In stark contrast, the polarizing film of the present invention does not have any polyvinylene structure. Rather, the polarizing film of the present invention comprises a PVA film in/on which iodine is adsorbed and oriented. Therefore, the polarizing film to be processed is different between the present invention and **Isozaki**.

Furthermore, **Isozaki** does not disclose dipping the PVA film in/on which iodine is adsorbed and oriented in an aqueous solution containing water, boric acid, and potassium iodide in a specific weight ratio at a specific temperature while suppressing the contact between the aqueous solution and oxygen. Accordingly, the method of the present invention is quite patentably distinct from the method of **Isozaki**.

Starzewski discloses a polarizing film based on polyvinyl alcohol containing polyacetylene as the light-polarizing substance. The POL-PVA film (a polarizing film of PVA which comprises polyacetylene as a dichroic substance) is heated at a temperature of between 100°C and 300°C (col. 2, line 66 to col. 3, line 12). Before the POL-PVA film is heated at such a high temperature, the PVA film is provided with a protective layer such as a silicate layer to avoid contact of the film with oxygen (col. 2, lines 22-27).

The polarizing film of **Starzewski** is different from the polarizing film of the present invention because the polarizing film of **Starzewski** is a PVA film containing polyacetylene as a dichroic substance while the polarizing film of the present invention comprises a PVA film in/on which iodine is adsorbed and oriented. In addition, **Starzewski** does not describe dipping the PVA film in/on which iodine is adsorbed and oriented in an aqueous solution containing water, boric acid, and potassium iodide in a specific weight ratio at a specific temperature while suppressing the contact between the aqueous solution and oxygen. Accordingly, the method of the present invention is quite patentably distinct from the method of **Starzewski**.

Isozaki and **Starzewski** describe avoiding contact between the polarizing film and oxygen. In contrast, the method of the present application avoids contact between the aqueous solution, in which a polarizing film is dipped, and oxygen.

The suppression of the contact between the aqueous solution containing boric acid and oxygen improves the contrast of the polarizing film. Such an effect is unexpected from **Isozaki** or **Starzewski**. Accordingly, the present invention would not have been obvious to one of ordinary skill in the art based on the disclosures of **Isozaki** in view of **Starzewski**.

As discussed above, **Isozaki** in view of **Starzewski** do not disclose each and every aspect of the pending claims. Applicants respectfully submit that **DesMarais et al.** and **Dempo** do not cure the above noted deficiencies of **Isozaki** and **Starzewski**. As such, each of pending claims 1-6 and 8-10 are also patentable and non-obvious over these cited references, even when combined with the disclosures of **Isozaki** and **Starzewski**.

As stated in *KSR International Co. v Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007), “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” Furthermore, the mere fact that references *can* be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art. *Id.* As described above, Applicants have shown that the present invention achieves unexpected and unpredictable results.

To establish a *prima facie* case of obviousness of a claimed invention, all of the claim limitations must be disclosed by the cited references. As discussed above, **Isozaki** in view of **Starzewski**, with or without the other cited references, fail to disclose all of the claim limitations of independent claim 1, and those claims dependent thereon. Accordingly, the combination of references does not render the present invention obvious. Furthermore, the cited references or the knowledge in the art provide no reason or rationale that would allow one of ordinary skill in the art to arrive at the present invention as claimed. Therefore, a *prima facie* case of obviousness has not been established, and withdrawal of the outstanding rejections is respectfully requested. Any contentions of the USPTO to the contrary must be reconsidered at present.

Conclusion

Based on the amendments and remarks presented herein, the USPTO is respectfully requested to issue a Notice of Allowance in the matter of the instant application clearly indicating that each one of instantly pending claims 1-6 and 8-10 is allowed and patentable under the provisions of Title 35 of the United States Code.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad M. Rink, Reg. No. 58,258 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

John W. Bailey
Registration No.: 32,881
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicants